ABSTRACT OF THE DISCLOSURE

A high-sensitivity and low-noise micromachined capacitive lateral accelerometer device having an input axis and a monolithic, three-axis accelerometer utilizing the device are provided. The device includes at least one electrode having a side surface normal to the input axis. A relatively large proofmass has at least one side surface normal to the input axis and extends along a width of the proofmass. The proofmass is movable against acceleration relative to the at least one electrode due to inertial force along the input axis to obtain a capacitive variation between the at least one electrode and the proofmass. The side surfaces are spaced apart to define a narrow, high-aspect ratio sensing gap which extends along substantially the entire width of the proofmass. The proofmass forms a sense capacitor with the at least one electrode.